1028-67 Coronary Flow Reserve and Stress SPECT ^{201}Tl in Intermediate Saphenous Vein Graft Lesions

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Coronary flow reserve (CFR) has become a useful means for determining the physiologic significance of native coronary lesions. While CFR normalizes following coronary bypass surgery, the utility of CFR in the evaluation of saphenous vein graft (SVG) lesions has not been defined. Therefore, we examined the correlation between CFR and stress SPECT ^{201}Tl results in 13 patients with SVG lesions of intermediate severity (40– 80% stenosis). In each patient, the SVG supplied normal myocardium, and the bypassed vessel was at least half the diameter of the SVG. Coronary flow velocity was recorded at baseline and following adenosine-induced hyperemia using an 0.014" intracoronary Doppler guidewire. Patients subsequently underwent exercise SPECT ^{201}Tl imaging and were classified by stress ^{201}Tl results as being normal or having a reversible defect. Twelve SVGs without stenoses supplying normal myocardium served as controls. Control SVGs had a CFR of 2.6 ± 0.4, (range 2.0–3.6).

	Normal ^{201}Tl (n = 7)	Reversible ^{201}Tl (n = 6)	p value
CFR	2.8 ± 0.6	1.5 ± 0.4	0.0001
Stenosis (%)	61 ± 9	64 ± 13	NS
MLD (mm)	1.5 ± 0.3	1.3 ± 0.5	NS

MLD = minimal luminal diameter

Quantitative angiographic severity did not distinguish patients with evidence of ischemia by stress SPECT ^{201}Tl imaging. CFR, however, was significantly reduced in patients with reversible ^{201}Tl defects. Using a normal CFR of ≥2.0, the sensitivity, specificity and predictive accuracy of CFR compared to stress ^{201}Tl results were 83%, 100% and 92%, respectively. Thus, Doppler guidewire measures of CFR correlate with stress SPECT ^{201}Tl results and may be useful in determining the physiologic significance of intermediate SVG lesions.

1028-120 Physician Prejudice Influences Treatment Allocation in Single Vessel Coronary Artery Disease

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Single vessel coronary artery disease (SVD) has a generally benign prognosis and many patients with this pattern of disease are managed conservatively. Although coronary artery bypass grafting is sometimes recommended, balloon angioplasty and other interventional procedures provide the principal alternative management strategy. These are of proven value in the treatment of symptomatic disease but no study has yet found them to confer prognostic advantage. The aim of this study was to identify factors predicting the allocation of SVD patients to medical or interventional treatment and to test the hypothesis that the disposition of the attending cardiologist, as manifest by the nature of his or her practice, will strongly influence the process Some 1860 consecutive adult diagnostic catheter procedures were prospectively examined. Patients with previous intervention, acute coronary syndromes or coexisting valvar and myocardial disease were excluded. A final cohort of 76 patients manifesting non-occlusive SVD was identified. These patients were under the care of 11 different cardiologists who were grouped on the basis of whether or not they themselves performed coronary angioplasty procedures (Yes n = 4: No n = 7). The baseline characteristics of the patients of these groups (Yes n = 26: No n = 50) showed no significant differences with respect to age, anginal symptoms and treadmill exercise test duration or positivity by ST segment criteria. Patients were then regrouped on the basis of initial treatment allocation (Intervention n = 28: Medical n = 48). The means of normally distributed, continuous variables (age, exercise test duration) were compared by t test for independent samples and categorical variables were examined by a chi squared regression model. No significant differences were found in age, anginal symptoms or exercise test positivity. Being under the care of a cardiologist performing coronary angioplasty was however strongly associated with allocation to an interventional management strategy (p = 0.4). A multiple logistic regression analysis confirmed attending cardiologist type as a significant and independent predictor of treatment allocation. This study demonstrates that, in patients with SVD, physician prejudice may be an important factor in treatment recommendation and while this may have little influence on the group's uniformly favourable prognostic outlook it has clear implications for individual patients and for resource allocation.

1028-121 Stressful Public Speaking Elevates Plasma β-Endorphins

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Public speaking psychological stress has previously been shown to be associated with silent ischemia. To test the hypothesis that psychological stress elevates plasma β-endorphin and that this changes pain threshold, we studied 20 patients with documented CAD and exercise induced ischemia, Following instrumentation and a 30 minute rest period, venous blood samples for β-endorphin were obtained prior to and immediately post psychological stress. Pain threshold was then assessed using a thermal probe technique at baseline and immediately post psychological stress. Patients gave 3 brief speeches lasting a total of 15 minutes about real life hassle situations.

	Baseline	Peak Stress	
SBP (mmHg)	138 ± 4	180 ± 4	
HR (Beats/min)	65 ± 3	78 ± 4	
Double Product	9,047 ± 508	14,240 ± 844	
Plasma β-endorphin (pMol/L)	4.3 ± 0.9	8.3 ± 2	$p < 0.05$
Pain Threshold (C°)	45.0 ± 0.5	45.4 ± 0.5	$p = 0.18$

There was a significant positive correlation between pain threshold post stress and β-endorphin post stress ($r = 0.58$, $p = 0.008$)

We conclude: In patients with CAD and exercise induced ischemia 1) public speaking produces psychological stress manifested by increased cardiovascular reactivity 2) public speaking causes an increase in plasma β-endorphin which is significantly correlated with pain thresholds 3) this may explain the predominance of silent ischemia during psychological stress in patients with CAD.

1028-122 The Beneficial Effects of Lipid Lowering Therapy by Pravastatin on Coronary Atherosclerosisis Diminished by 50% in Patients who Continue to Smoke

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REGRESS (Regression Growth Evaluation Statin Study) is a placebo controlled multicenter study to assess the effect of 2 year treatment with Pravastatin (PRAV) on progression and regression of angiographically documented coronary atherosclerosis (CA) in patients with a serum cholesterol between 4–8 mmol/l (155–310 mg/dl). Baseline and follow-up analyses of the coronary arteriograms was performed by quantitative computer analysis. The primary endpoints of the study, change in Mean Segment Diameter and Minimum Obstruction Diameter (MOD) averaged per patient, showed significant retardation of mean progression of CA in the PRAV-group as compared to the placebo (PLAC)-group.

To determine whether this beneficial effect is attenuated by the presence of risk factors like smoking, hypertension, and obesity, we analyzed our data in this regard.

Results: at baseline the median MOD was 1.83 mm for smokers (n = 190) and 1.89 mm for non-smokers (n = 451, p = 0.02). Median changes of the MOD in the PLAC- and PRAV-group for smokers and non-smokers are shown in the table below.

	PLAC	PRAV	
smokers	−0.07 mm	−0.04 mm	p = 0.32
non-smokers	−0.10 mm	−0.03 mm	p = 0.0003
	p = 0.08	p = 0.29	

The pravastatin effect for non-smokers was 0.07 mm less progression and for smokers 0.03 mm less progression of CA. Adjusting for baseline MOD differences between smokers and non-smokers did-not alter this result. No major differences of the pravastatin effect could be demonstrated for subgroups of patients with or without hypertension or obesity.

Conclusion: the beneficial effect of lipid lowering therapy on coronary atherosclerosis is diminished by 50% in patients who continue to smoke.